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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/334,891	06/17/1999	GUIDO GHISOLFI	32461/GM/IP	5842

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MODIANO & ASSOCIATI  
VIA MERAVIGLI 16  
MILANO, 20123  
ITALY

EXAMINER

PATTERSON, MARC A

ART UNIT	PAPER NUMBER
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1772

15

DATE MAILED: 10/09/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

TC-15

<b>Office Action Summary</b>	<b>Application No.</b>		<b>Applicant(s)</b>	
	09/334,891		GHISOLFI, GUIDO	
	<b>Examiner</b>		<b>Art Unit</b>	
	Marc A Patterson		1772	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 August 2002.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-5 and 7-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 7-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other:  |

## **DETAILED ACTION**

### **WITHDRAWN REJECTIONS**

1. The 35 U.S.C. 112, second paragraph rejection of Claims 1 and 5, 35 U.S.C. 103(a) rejection of Claims 1 – 14 and 16 – 22 as being unpatentable over Martin, Jr (U.S. Patent No. 4,806,398) in view of Joosten (European Patent No. 232818), Ochi et al (Japanese Patent No. 07156980) and Sumida (Japanese Patent No. 09039185) and 35 U.S.C. 103(a) rejection of Claim 15 as being unpatentable over Martin, Jr (U.S. Patent No. 4,806,398) in view of Joosten (European Patent No. 232818), Ochi et al (Japanese Patent No. 07156980), Sumida (Japanese Patent No. 09039185) and The Encyclopedia of Polymer Science and Engineering. (Volume 12, page 214, 1985), of record on page 2 of the previous Action, are withdrawn.

### **NEW REJECTIONS**

#### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The phrase 'beverage – tight' is indefinite, as its meaning is unclear. For purposes of examination, the phrase will be assumed to mean that the container holds beverages without significant leakage. The term 'foldable' is also indefinite, as it is unclear whether folding occurs or not. For purposes of examination, it will be assumed that folding occurs.

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4. Claim 5 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The phrase 'ASTM 1434' is indefinite, as the phrase refers to a standard which may change with time.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1 – 5, 10 – 14 and 16 – 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Martin, Jr (U.S. Patent No. 4,806,398) in view of Joosten (European Patent No. 232818), Hayashi (U.S. Patent No. 5,000,991) and Sumida (Japanese Patent No. 09039185).

Martin, Jr discloses a multilayer structure used for the production of milk and fruit juice containers (the container therefore contains beverage without significant leakage; column 5, lines 43 – 52). The structure comprises a paperboard substrate to which is laminated a coextruded, dual layer polyester film, one surface of which is essentially crystalline and the other of which is essentially non – crystalline. The non – crystalline layer of the film, which forms the innermost layer of the container, has a significantly lower melting point than the crystalline layer, and is heat sealable (column 7, lines 16 – 50; column 8, lines 14 – 25); the crystalline layer of the film is metallized; the surface is then extrusion (hot) laminated to the substrate (column 9, lines 11 –

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29); the material has creased on it a pattern suitable to develop by folding (Figure 2). Martin, Jr fails to disclose a substrate which is a polyethylene terephthalate foam.

Joosten teaches that a foamed plastic is equivalent to paperboard in the fabrication of fruit juice containers (page 6, lines 4 – 17) in the making of a container for containing liquids (page 1, lines 13 – 25) for the purpose of making a container which provides an improved shelf life to fruit juices (page 2, lines 3 – 7). Joosten also teaches the use of polyethylene terephthalate as a plastic in the making of a container for containing liquids (page 6, lines 14 – 17) for the purpose of making a container which provides an improved shelf life to fruit juices (page 2, lines 3 – 7).

Hayashi teaches the use of a polyester resin foamed sheet having a density of less than  $700 \text{ kg/m}^3$  in the making of a laminate of foamed and non – foamed resin, for the purpose of maintaining good heat insulating properties (column 9, lines 1 – 19).

It would therefore have been obvious to one of ordinary skill in the art at the time Applicant's invention was made to have provided for foamed plastic rather than paperboard in Martin, Jr. in order to make a container for containing liquids as taught by Joosten, and to use polyethylene terephthalate (which is an aromatic polyester) as the plastic, in order to making a container which provides an improved shelf life to fruit juices as taught by Joosten and to have provided for a polyester resin foamed sheet having a density of less than  $700 \text{ kg m}^3$  in Martin Jr. in order to maintain good heat insulating properties as taught by Hayashi.

Martin, Jr also fails to disclose a thickness of 0.2 to 3 mm. However, Martin Jr. disclose a thickness of 300 gauge (column 9, lines 5 – 10) and . Therefore, the claimed range of thickness would be readily determined through routine optimization by one having ordinary skill in the art depending on the desired end use of the product. It therefore would be obvious for one of

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ordinary skill in the art to vary the thickness, since the thickness would be readily determined through routine optimization by one having ordinary skill in the art depending on the desired end result as shown by Martin, Jr. *In re Boesch and Slaney*, 205 USPQ 215 (CCPA 1980).

Martin Jr. also fails to disclose a heat sealable film having a melting point from 50 to 200 degrees Celsius.

Sumida teaches a heat sealable polyester (polyethylene terephthalate) film having a melting point of 50 to 200 degrees Celsius, for the purpose of providing a layer having superior interlayer adhesive strength (Abstract – Solution).

It therefore would have been obvious for one of ordinary skill in the art at the time Applicant's invention was made to have provided for a heat sealable film having a melting point of 50 to 200 degrees Celsius in Martin Jr. in order to provide a layer having superior interlayer adhesive strength as taught by Sumida.

With regard to the polyester material being 'recyclable,' the heat – sealable layer disclosed by Martin Jr. comprises only polyethylene terephthalate (column 7, lines 40 – 50). The claimed aspect of the polyester material being 'recyclable' therefore reads on Martin, Jr.

7. Claims 7 – 8 and 18 – 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Martin, Jr (U.S. Patent No. 4,806,398) in view of Joosten (European Patent No. 232818), Hayashi (U.S. Patent No. 5,000,991) and Sumida (Japanese Patent No. 09039185) and further in view of Hubbard et al (WO 97/47694).

Martin Jr, Joosten, Hayashi and Sumida disclose a multi – layer material comprising a metallized heat – sealable film as discussed above. With regard to Claims 7 – 8 and 18 – 19 and

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21, Martin Jr, Joosten, Ochi et al and Sumida fail to disclose a heat – sealable film which is coated with potassium or lithium polysilicates, and having an oxygen permeation rate lower than  $70 \text{ ml/m}^3/24\text{h/atm}$ .

Hubbard et al teach the metallization of polyester with lithium polysilicate (page 10, lines 5 – 24) for the purpose of obtaining a film having an oxygen permeation rate lower than  $70 \text{ ml/m}^3/24\text{h/atm}$  (page 21, lines 17 – 30).

It therefore would have been obvious for one of ordinary skill in the art at the time Applicant's invention was made to have provided for lithium polysilicate (which is also silicon oxide) in Martin Jr, Joosten, Ochi et al and Sumida in order to obtain a film having an oxygen permeation rate lower than  $70 \text{ ml/m}^3/24\text{h/atm}$  as taught by Hubbard et al.

With regard to Claim 20 Hubbard et al fail to disclose an oxygen permeation rate lower than  $0.3 \text{ ml/m}^3/24\text{h/atm}$ . However, Hubbard et al disclose an oxygen permeation rate lower than  $0.3 \text{ ml/m}^3/24\text{h/atm}$ . Therefore, the oxygen permeation rate would be readily determined through routine optimization by one having ordinary skill in the art depending on the desired end use of the product. It therefore would be obvious for one of ordinary skill in the art to vary the oxygen permeation rate, since the oxygen permeation rate would be readily determined through routine optimization by one having ordinary skill in the art depending on the desired end result as shown by Hubbard et al. *In re Boesch and Slaney*, 205 USPQ 215 (CCPA 1980).

8. Claims 9, 15 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Martin, Jr (U.S. Patent No. 4,806,398) in view of Joosten (European Patent No. 232818),

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Hayashi (U.S. Patent No. 5,000,991) and Sumida (Japanese Patent No. 09039185) and further in view of The Encyclopedia of Polymer Science and Engineering. (Volume 12, page 214, 1985).

Martin Jr, Joosten, Hayashi and Sumida disclose a multi – layer material comprising a heat – sealable film as discussed above. Martin Jr, Joosten, Hayashi and Sumida fail to disclose a heat sealable film which is a polyethylene terephthalate – isophthalate copolymer.

The Encyclopedia of Polymer Science and Engineering (Volume 12, page 214, 1985) teaches that it is known in the art to use polyethylene terephthalate – isophthalate copolymer instead of polyethylene terephthalate as the outer layer of a heat sealable polyester film for the purpose of obtaining a film having a lower softening and melting point.

It would therefore have been obvious to one of ordinary skill in the art to use a polyethylene terephthalate – isophthalate copolymer (thus an aromatic polyester obtained by polycondensation of a copolyethylene terephthalate in which at least 1 mole percent of the units deriving from terephthalic acid are substituted by units derived from isophthalic acid) as the outer layer of the heat sealable film in Martin Jr, Joosten, Hayashi and Sumida in order to obtain a package which is heat sealable at a lower temperature.

The Encyclopedia of Polymer Science and Engineering fails to disclose an aromatic polyester obtained by polycondensation of a copolyethylene terephthalate in which at least 1 mole percent of the units deriving from terephthalic acid are substituted by units derived from isophthalic acid. However, The Encyclopedia of Polymer Science and Engineering discloses a copolyethylene terephthalate in which at least 1 mole percent of the units deriving from terephthalic acid are substituted by units derived from isophthalic acid as discussed above. Therefore, the amount of units derived from isophthalic acid would be readily determined



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through routine optimization by one having ordinary skill in the art depending on the desired end use of the product. It therefore would be obvious for one of ordinary skill in the art to vary amount of units derived from isophthalic acid, since amount of units derived from isophthalic acid would be readily determined through routine optimization by one having ordinary skill in the art depending on the desired end result as shown by The Encyclopedia of Polymer Science and Engineering *In re Boesch and Slaney*, 205 USPQ 215 (CCPA 1980).

#### ANSWERS TO APPLICANT'S ARGUMENTS

9. Applicant's arguments, and amended claims, regarding the 35 U.S.C. 112, second paragraph rejection of Claims 1 and 5, 35 U.S.C. 103(a) rejection of Claims 1 – 14 and 16 – 22 as being unpatentable over Martin, Jr (U.S. Patent No. 4,806,398) in view of Joosten (European Patent No. 232818), Ochi et al (Japanese Patent No. 07156980) and Sumida (Japanese Patent No. 09039185) and 35 U.S.C. 103(a) rejection of Claim 15 as being unpatentable over Martin, Jr (U.S. Patent No. 4,806,398) in view of Joosten (European Patent No. 232818), Ochi et al (Japanese Patent No. 07156980), Sumida (Japanese Patent No. 09039185) and The Encyclopedia of Polymer Science and Engineering. (Volume 12, page 214, 1985), of record on page 2 of the previous Action, have been considered and have been found to be persuasive. The rejections are therefore withdrawn. The new 35 U.S.C. 103(a) rejection of Claims 1 – 5, 10 – 14 and 16 – 17 as being unpatentable over Martin, Jr (U.S. Patent No. 4,806,398) in view of Joosten (European Patent No. 232818), Hayashi (U.S. Patent No. 5,000,991) and Sumida (Japanese Patent No. 09039185), 35 U.S.C. 103(a) rejection of Claims 7 – 8 and 18 – 21 as being unpatentable over Martin, Jr (U.S. Patent No. 4,806,398) in view of Joosten (European Patent No. 232818),

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Hayashi (U.S. Patent No. 5,000,991) and Sumida (Japanese Patent No. 09039185) and further in view of Hubbard et al (WO 97/47694) and 35 U.S.C. 103(a) rejection of Claims 9, 15 and 22 as being unpatentable over Martin, Jr (U.S. Patent No. 4,806,398) in view of Joosten (European Patent No. 232818), Hayashi (U.S. Patent No. 5,000,991) and Sumida (Japanese Patent No. 09039185) and further in view of The Encyclopedia of Polymer Science and Engineering. (Volume 12, page 214, 1985) above are directed to amended Claims 1 – 5 and 7 – 22.

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

### ***Conclusion***

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marc Patterson, whose telephone number is (703) 305-3537. The

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examiner can normally be reached on Monday through Friday from 8:30 AM to 5:00 PM. If attempts to reach the examiner by phone are unsuccessful, the examiner's supervisor, Harold Pyon, can be reached at (703) 308-4251. FAX communications should be sent to (703) 872-9310. FAXs received after 4 P.M. will not be processed until the following business day.

Marc A. Patterson, PhD.

*Marc Patterson*  
Art Unit 1772

*[Signature]*  
HAROLD PYON  
SUPERVISORY PATENT EXAMINER  
1772 10/4/02